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TAGS: EPET EINV ENRG ECON VE

SUBJECT: Venezuela: Deciphering the Current Electricity Crisis

REF: CARACAS 1318; CARACAS 1367

CLASSIFIED BY: Darnall Steuart, Economic Counselor, DOS, Econ;
REASON: 1.4(B), (D)

¶1. (C) SUMMARY: Venezuela's current electrical crisis is serious and complex, with problems that may yet present a "perfect storm" for policymakers. While acknowledging problems in maintenance delays and planning shortfalls in augmenting electricity infrastructure, President Chavez cites increased electricity consumption and el Niño as the major sources of the current crisis. Industry experts, however, note that increased politicization of the electrical sector, including the creation of a new ministry headed by a minister with no experience, does not hold much hope that the government will successfully deal with the crisis. In the meantime, however, in the face of daily electrical outages (outside Caracas) and water rationing, there is a palpable fear that key elements of Venezuela's infrastructure are collapsing. END SUMMARY.

¶2. (C) On November 17, Petroleum AttachC) (PetAtt) spoke with Ciro Portillo (protect), currently Executive Director of the Maracaibo Chamber of Commerce and formerly Vice President of Enelven, Maracaibo's electrical utility. Drawing on his career in the electrical sector, Portillo provided his thoughts on the current crisis and sent PetAtt a thirty-one page presentation on it that appears to have been prepared by Enelven. On the same day, PetAtt attended an Investment Committee meeting of the Venezuelan-American Chamber of Commerce (VenAmCham) in which Eduardo Rosas and Oscar Zambrano (protect both throughout) spoke on the same topic. Rosas is the Managing Economist at the consultancy firm E. Rosas and Associates and Zambrano is an electrical engineer affiliated with the same. Both serve as advisors to Edelca, the electricity utility that operates the Guri hydroelectric complex in the State of Bolívar.

The Problem - A Mixed Bag

¶3. (C) President Chavez, while acknowledging there are problems in

the electricity sector, has noted that maintenance delays and planning shortfalls are partially to blame for Venezuela's current power supply problems. He attributes the majority of the blame, however, to increased electricity consumption and water shortages due to the El NiC1o phenomenon. Portillo stated that inefficiency and politicization of the electricity sector magnify the current challenges facing the sector. Rosas noted that Edelca's total labor force has doubled over the last couple of years from 3,000 to 6,000 employees as an indication that the company (like many other government-run entities) has become a jobs program. Even though current electricity demand peaked in October, he predicted that the crisis would continue for the next year. Furthermore, he does not expect that the Bolivarian Republic of Venezuela (GBRV) will implement policies within the next couple of months to provide short-term relief before cyclic demand peaks again in April 2010 and the crisis sets in for the medium to long-term. Portillo described Caracas as a "protected" city, meaning that under direction from President Chavez, electricity supply to all other parts of the country are of secondary importance to maintaining a constant supply to the capital. Based on the trend of current generation and consumption figures, he said, Caracas' status as a "protected" city will be threatened by April 2010 as the generation and transmission system may not be sufficient to supply the capital city's needs.

¶4. (C) The conclusions listed in a PowerPoint presentation provided by Portillo summarized current electricity problems resulting from:

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(1) deterioration of the thermal infrastructure, (2) reduced hydroelectric generation capacity resulting from low water reservoir levels, (3) thermal expansion plans that are inadequate to meet current and future demand levels, (4) insufficient and overloaded transmission line infrastructure, (5) deterioration of the distribution network, and (6) increased politicization and re-centralization of the electrical utilities.

Consumption

¶5. (C) During his November 17 VenAmCham presentation, Rosas confirmed GBRV announcements that the average annual growth in electricity consumption has been 4.5% since 1999. He observed that electricity consumption in Venezuelan states with above average daily temperatures is significantly above the national average of 0.82 KWH (Zulia's average is 1.751 KWH and in Nueva Esparta (Margarita Island) it is 1.652 KWH). Most importantly, Rosas noted that only 72% of consumed electricity is billed to an end user, with 28% (nearly 33 GWH in 2008) provided free (mostly through illegal connections to the national grid). Both Rosas and Portillo stated that the current electricity shortage would find temporary relief in December when historical cyclic consumption levels recede, but would resume by March or April. [NOTE: According to Rosas, Venezuela experiences peak electricity demand from September - December each year and again in the March-April timeframe. It is during these periods of peak demand that the national electricity infrastructure is overloaded and is most vulnerable to failure. END NOTE] Portillo noted, however, that, if the effects of El NiC1o are severe and the water levels in the Guri reservoir reach a critical level and affect hydroelectricity generation, Venezuela might not realize the predicted respite from December to March.

Generation

¶6. (C) According to the PowerPoint presentation provided by Portillo, 63% of current installed capacity derives from hydroelectric sources and 37% from thermal sources. However, given

current problems in the thermal generation facilities in Venezuela, hydroelectric plants are producing beyond their engineered capacity and are supplying 72% of the total electricity consumed with thermal plants providing only 28%. Even though installed electricity generation capacity has increased during the Chavez Administration by 19%, peak electricity demand has increased by 43% and electricity consumption has increased nearly 50%. Current maintenance problems are causing further problems. Venezuela's main thermal electricity generating facility, Planta Centro, was designed to produce 12.2 GWH of electricity, but currently only produces 3.5 GWH (or 29% of its potential). Portillo claimed that of Planta Centro's five thermal units only one is operating (and only at half capacity). Other Venezuelan thermal generation facilities have a maximum designed capacity of 41.257 GWH, but are only producing 34.254 GWH (83% of potential). Portillo stated that of the twenty turbines at the Guri hydroelectric facility, eight were out of service, with one potentially irreparable.

Transmission

¶7. (C) Oscar Zambrano claimed that even if, theoretically, Venezuela had sufficient generation capacity, there would still be a serious problem in the transmission and distribution network

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resulting from years of non-investment. Based on current system maintenance levels, he characterized the transmission network as operating "at risk." The majority of the electricity from the Guri hydroelectric complex is transported to the center of the country on three 765 KW transmission lines, where the national grid is then broken out onto smaller transmission lines. Portillo noted that the virtual nation-wide blackout in May 2009 resulted from one of those three lines falling. Zambrano explained that the limits of the current transmission network determine the maximum amount of electricity that can be moved around the country and create bottlenecks and chokepoints in the grid. As an example, he mentioned that the 60 MW transmission line that runs from the mainland to Nueva Esparta often "has difficulties," resulting in the entire island state losing electricity. He noted that electricity problems in Eastern Venezuela are a result of transmission line problems and not generation shortages. Rosas added that there has been no investment in improving the Venezuelan transmission network for the last decade.

El Nino

¶8. (C) Rosas maintained that the water levels of the Guri Reservoir have been under historical averages since June and, on one day in September, actually set a new record low. Since the effects of El NiC1o are cyclic, Venezuelan electricity authorities have reliable data on its effects in 2003, when water levels were critical. Rosas explained that even though current water levels have not reached 2003 levels there is still cause for concern. According to an established industry expert, even though the Guri reservoir normally starts its dry winter season at nearly 100% capacity, it is currently at 84% of its maximum water capacity. The reservoir, however, has a multi-year regulation capacity, meaning that it is insulated from the negative effects of a prolonged drought (assuming energy authorities manage reservoir drawdown efficiently) and is theoretically able to generate power without restraint. The industry expert noted, however, that the GBRV has likely overexploited hydroelectric generation to compensate for the lack of thermal generation. Regardless, he believed that Guri should be able to weather two prolonged dry seasons in a row before water levels reach the critical point of forced generation rationing. Portillo noted that both Colombia and Brazil suffer from El NiC1o affects, but that both of them are better prepared due to investments made to extend their thermal generation capabilities to

address periodic shortages.

GBRV Strategy

¶ 9. (C) One of the strategies touted by the GBRV to resolve the current crisis is to increase its thermal generation capacity. Zambrano shared that based on Venezuela's current natural gas and diesel shortages, it is unlikely that it would have sufficient fuel stocks to power all of the planned thermal generation projects. Portillo added that the GBRV's short term strategy of installing small diesel plants to replicate Cuba's distributed generation model is problematic as most of these facilities will not extend the range or capacity of the national electricity grid and have design shortcomings. Another strategy mentioned in the press is to increase electricity tariffs. Rosas understands that the GBRV is discussing increases as significant as 30% for "high end users," with the definition of "high end" resulting from a comparison of current consumption against 2002 levels. Given the growth in demand since 2002, it is likely that "high end user" could capture a significant portion of the population.

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¶ 10. (C) Next to electricity rationing programs, the most visible strategy implemented by President Chavez was the creation of a Ministry of Electricity and the appointment of Cngel Rodrc-guez as the Minister. Portillo notes that the new minister has no background in electricity, having graduated as an oil technician in 1984, and has spent most of his career as a union and political leader. During his role as president of the National Assembly's Energy and Mines Commission, industry experts claim he showed no initiative and little understanding of the power sector. Portillo believes that one of RodrC-guez's early actions will be to fire the presidents of all the subsidiaries of the umbrella electricity utility Corpolec, and to politicize further the electrical sector. A recognized industry expert adds yet another political twist, noting that senior positions in the electrical sector have been in the hands of the military for some years. He believes that the termination of the military hierarchy within the electricity utility, with the appointment of a civilian to the post, could make waves within certain military sectors that perceive their influence has diminished.

¶ 11. (C) In the VenAmCham briefing, Rosas recommended that business develop contingency plans to face electricity and water rationing, noting that subsidized prices have removed incentives for the private sector to consume resources efficiently. He urged business to develop back-up capacity and to work with the GBRV to advocate for market solutions, such as enacting electricity tariff reductions for companies that shift production hours away from peak electricity consumption hours in the late afternoon/early evening.

¶ 12. (C) COMMENT: The electrical situation in Venezuela is complex, but President Chavez's pro-active response reveals a concern about the potential gravity of the problem and its effects on his government. With the 2010 National Assembly elections around the corner, these problems present serious challenges for Venezuela's political leadership, especially if the problems were to encroach on Caracas' status as a "protected city."

¶ 13. (C) As the private sector turns to purchasing generators to maintain operations in the event of electrical outages, a secondary vulnerability has been exposed - diesel supply. The GBRV nationalized the entire distribution and supply of fuels in September 2008. If there were large-scale electricity outages, private entities would be dependent on PDVSA to re-supply diesel and gasoline stocks. The energy problem could potentially cascade

out of control, spiraling Venezuela into temporary chaos.

¶14. (C) If there were a systemic failure in Venezuela's electrical system, we could expect to see significant unrest and negative economic impact. In the meantime, however, in the face of daily electrical outages (outside Caracas) and water rationing, there is a palpable fear in some quarters that key elements of Venezuela's infrastructure are collapsing.

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